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                  spectral property data

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               CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 05 JULY 2007.

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=> s antibod?
L1     3015896 ANTIBOD?

=> s l1 and consensus sequence
L2        5343 L1 AND CONSENSUS SEQUENCE

=> s l2 and improved folding efficiency
L3           0 L2 AND IMPROVED FOLDING EFFICIENCY

=> s l2 and increase yield
L4           0 L2 AND INCREASE YIELD

=> s l1 and substitution
L5       26327 L1 AND SUBSTITUTION

=> s l5 and heavy chain framework
L6           7 L5 AND HEAVY CHAIN FRAMEWORK

=> dup remove l6
PROCESSING COMPLETED FOR L6
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L7 3 DUP REMOVE L6 (4 DUPLICATES REMOVED)

=> d l7 1-3 cbib abs

L7 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
2005:248951 Document No. 142:315233 Modified **antibody** comprising a **substitution** mutation which confers increased stability. Krauss, Juergen; Courtenay-Luck, Nigel Stephen; Rybak, Mary (Antisoma PLC, UK; The Government of the United States of America, as Represented by the Secretary of Health and Human Services). Brit. UK Pat. Appl. GB 2406094 A 20050323, 81 pp. (English). CODEN: BAXXDU. APPLICATION: GB 2003-21746 20030917.

AB A modified **antibody** which selectively binds to a specific target, the **antibody** being modified at at least one amino acid residue that dets. antigen binding selectivity/affinity characterized in that the **antibody** mol. exhibits a great stability than the unmodified parent **antibody.** The mutation may be in the variable heavy domain at position VH71 and comprises the **substitution** of a smaller amino acid than the native residue. The **antibody** mol., e.g. a ScFv, diabody, may be derived from a humanized HMFG-1 **antibody** raised against the cancer specific glycoprotein antigen, MUC-1. Conjugation of the **antibody** to drugs, toxins, radionuclides, nucleases and the use of the fusion mols. in pharmaceutical compns. for the treatment of cancer, particularly adenocarcinoma, is described. Use of the **antibody** in a phage display system to identify target mols. is described. Host cells and vectors comprising the nucleic acid of figure 8, encoding the mutated **antibody**, are also described.

L7 ANSWER 2 OF 3 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN
1997:874681 The Genuine Article (R) Number: YH133. Design and construction of a hybrid immunoglobulin domain with properties of both heavy and light chain variable regions. Ill C R (Reprint); Gonzales J N; Houtz E; Ludwig J R; Melcher E D; Hale J E; Pourmand R; Keivens V M; Myers L; Beidler K; Stuart P; Radhakrishnan R. HYBRITECH INC, PROT ENGN GRP, DIV IMAGING & THERAPEUT RES & DEV, SAN DIEGO, CA 92121. PROTEIN ENGINEERING (AUG 1997) Vol. 10, No. 8, pp. 949-957. ISSN: 0269-2139. Publisher: OXFORD UNIV PRESS , GREAT CLARENDON ST, OXFORD, ENGLAND OX2 6DP. Language: English.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The complementarity-determining regions (CDRs) of a human kappa light chain were replaced with CDRs from a murine gamma-1 heavy chain and, by use of molecular modeling, key **heavy chain framework** residues were identified and thus included to preserve the native conformation of the heavy chain CDRs, Go-expression of this hybrid human kappa chain (VHBCL) With a human kappa chain counterpart (VLCL, engineered to contain murine light chain CDRs) resulted in the secretion of high levels of a heterodimeric protein (VHBCL::VLCL) termed 'kappabody'. This protein also had equivalent affinity for antigen as the Fab' of the parent murine IgG(1). High-level secretion was also observed for the hybrid chain as homodimers (VHBCL::VHBCL), which is not observed for chimeric chains consisting of a heavy chain variable region and light chain constant region, i.e. VHCL homodimers or single chains are not secreted, This indicates that regions within the variable domain, required for secretion of light chains, reside outside of the hypervariable regions (CDRs) and that the heavy chain CDRs and supporting residues do not prevent secretion, These results demonstrate the possibility of designing small, single-domain molecules possessing a given binding activity which may be secreted at high levels from mammalian cells.

L7 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 1
96062076. PubMed ID: 7473721. Framework residues 71 and 93 of the chimeric B72.3 **antibody** are major determinants of the conformation of heavy-chain hypervariable loops. Xiang J; Sha Y; Jia Z; Prasad L; Delbaere L T. (Saskatoon Cancer Center, Department of Microbiology, Saskatchewan,

Canada.) Journal of molecular biology, (1995 Oct 27) Vol. 253, No. 3, pp. 385-90. Journal code: 2985088R. ISSN: 0022-2836. Pub. country: ENGLAND: United Kingdom. Language: English.

AB Structural analysis derived from the crystallographic study of the chimeric B72.3 **antibody** illustrated that some **heavy-chain framework** residues having atomic interactions with heavy-chain CDR residues may directly affect the conformation of CDR loops. For example, an alanine residue at H71 provides room for packing CDR2/CDR1 and lysine residues at H73 and H93 contribute a salt-bridge to aspartic acid at H55 in CDR2 and a hydrogen bond to the carbonyl group at H96 in CDR3, respectively. We have analysed the contribution of these framework residues to the TAG72-binding affinity. We altered these framework residues by site-directed mutagenesis, and determined the affinity of these mutant chimeric **antibodies** for the TAG72 antigen by solid phase radioimmunoassay. We found that a single amino acid **substitution** of alanine by phenylalanine at H71 or lysine by isoleucine at H93, significantly reduced the binding affinity for the TAG72 antigen by 12 and 20-fold, respectively, whereas the **substitution** of lysine by alanine at H73 reduced the binding affinity only two-fold. Our results indicate that **heavy-chain framework** residues alanine at H71 and lysine at H93 of the chimeric B72.3 **antibody** are the major determinants of the conformation of heavy-chain CDR2/CDR1 and CDR3 loops, whereas the salt-bridge between lysine at H73 and aspartic acid at H55 is less important. The hydrogen bond between two framework residues, glutamine at H5 and serine at H25 does not affect any CDR conformation. Our results will thus be of importance especially when the humanized B72.3 **antibody** is constructed by grafting the CDR loops to a human framework. The important framework region interactions must be maintained in the final humanized **antibody.**

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=> s framework consensus sequence
L8            2 FRAMEWORK CONSENSUS SEQUENCE

=> dup remove l8
PROCESSING COMPLETED FOR L8
L9            2 DUP REMOVE L8 (0 DUPLICATES REMOVED)

=> d l9 1-2 cbib abs

L9   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
2006:606294   Document No. 145:61466  Humanized anti-human β-amyloid
     peptide antibodies for treating amyloidogenic disease and relevant
     behavioral deficit.  Basi, Guriq; Jacobson, Jack Steven (Neuralab Limited,
     Bermuda; Wyeth, John, and Brother Ltd.).  PCT Int. Appl. WO 2006066049 A2
     20060622, 157 pp.  DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA,
     BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC,
     EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
     KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
     MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
     SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
     ZA; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA,
     GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
     (English).  CODEN: PIXXD2.  APPLICATION: WO 2005-US45515 20051215.
     PRIORITY: US 2004-636684P 20041215.
AB   The invention provides improved agents and methods for treatment of
     diseases associated with amyloid deposits of Aβ in the brain of a
     patient.  Preferred agents include antibodies, e.g., humanized antibodies.

L9   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:453250   Document No. 141:22210  Single-chain antibodies for intracellular
     targeting of Ras oncoprotein.  Rabbitts, Terence Howard; Tanaka, Tomoyuki
     (Medical Research Council, UK).  PCT Int. Appl. WO 2004046187 A2 20040603,
     67 pp.  DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR,
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BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-GB4944 20031114. PRIORITY: GB 2002-26723 20021115.

AB The authors disclose antibodies which can function in an intracellular environment. In particular, the intracellular antibodies contain **framework consensus sequences** for the heavy chain variable region and the light chain variable region which stabilize binding to a ligand within an intracellular environment. In one example, the authors demonstrate the inhibition of fibroblast transformation with an engineered single-chain antibody targeting a Ras oncoprotein.

=> s increase yield
L10 4363 INCREASE YIELD

=> s l10 and antibod?
L11 32 L10 AND ANTIBOD?

=> dup remove l11
PROCESSING COMPLETED FOR L11
L12 24 DUP REMOVE L11 (8 DUPLICATES REMOVED)

=> d l12 1-24 cbib abs

L12 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
2007:643891 Document No. 147:65611 Nucleic acid molecules encoding polypeptides involved in regulation of sugar and lipid metabolism and their use in transgenic plants. Haertel, Heiko. A.; Bhatt, Garima (Basf Plant Science G.m.b.H., Germany). PCT Int. Appl. WO 2007065878 A2 20070614, 129pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2006-EP69271 20061204. PRIORITY: US 2005-597558P 20051209.

AB This invention relates generally to nucleic acid sequences encoding proteins that are related to the presence of seed storage compds. in plants. More specifically, the present invention relates to Arabidopsis thaliana, Brassica napus, Glycine max, and Oryza sativa nucleic acid sequences encoding sugar and lipid metabolism regulator proteins and the use of these sequences in transgenic plants. In particular, the invention is directed to methods for manipulating sugar-related compds. and for increasing oil level and altering the fatty acid composition in plants and seeds. The invention further relates to methods of using these novel plant polypeptides to stimulate plant growth and/or to **increase yield** and/or composition of seed storage compds.

L12 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
2007:538620 Document No. 146:516088 Adenoviral protein pIX as a productivity augmenting protein factor in novel cell lines for recombinant protein production. Sandig, Volker; Jordan, Ingo (Probiogen AG, Germany). PCT Int. Appl. WO 2007054516 A1 20070518, 56pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,

NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2006-EP68234 20061108. PRIORITY: EP 2005-110453 20051108; US 2005-750156P 20051214.

AB The present invention provides a method for preparing a non-adenoviral target virus or target proteins utilizing a potent expression cell line having stably integrated into its genome a gene encoding a specific heterologous regulator protein. Because of its known pleotropic effects, the adenoviral pIX protein was transfected into cell lines to exam. whether pIX augments cell proliferation or production properties for biopharmaceutical products that are not related to adenovirus or adenoviral vectors. Unexpectedly, pIX (or a chimeric fusion analog) exerts a phenotypical effect in avian and human cells. Stable presence of pIX increases susceptibility of cell induction by double-stranded RNA analog, probably via Toll-like receptor 3. The presence of pIX protein also **increases yields** of highly attenuated pox virus in avian host cells, and increases the yield of proteinaceous product (not only virus) released by a stably transfected cell line. NC5T11 and NC5T11puro cell lines were developed from a mixture of cells from fetal brain by immortalization with adenovirus 5 E1A and B genes by nonviral transfection, followed by transfection with the pIX gene or a pIX-retinoic acid receptor fusion protein. Thus, the invention utilizes an expression cell having integrated into its genome a gene encoding adenoviral 5 pIX protein which modulates transcription, influences cell growth, and enhances productivity of the cell line with regard to the production of a virus not containing pIX and/or production of a protein differing from pIX.

L12 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

2006:1356995 Document No. 146:94682 Use of genes for molecular chaperones to **increase yields** of proteins manufactured in transgenic expression hosts. Payne, Thomas; Sleep, Darrell; Finnis, Christopher John Arthur; Evans, Leslie Robert (Delta Biotechnology Limited, UK; University of Nottingham). PCT Int. Appl. WO 2006136831 A2 20061228, 302pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2006-GB2289 20060622. PRIORITY: GB 2005-12707 20050622.

AB Host cells expressing genes for mol. chaperones and associated helper proteins, such as protein disulfide isomerases and sulfhydryl oxidase are used to stabilize foreign proteins and to increase their yields. The cells express genes for members of the DnaJ family, such a JEM1; and members of the Hsp70 family, such as LHS1 and SIL1 in combinations with genes for helper proteins. The DnaJ-like protein SCJ1 is specifically not used. The genes for these proteins may be expressed from non-native promoters as necessary to increase levels of expression. Use of the method to **increase yields** of serum albumin and transferrin using a Saccharomyces cerevisiae host is demonstrated.

L12 ANSWER 4 OF 24 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

2006:242891 The Genuine Article (R) Number: 016VC. Versatile and efficient synthesis of protein-polysaccharide conjugate vaccines using aminooxy reagents and oxime chemistry. Lees A (Reprint); Sen G; LopezAcosta A. Biosynexus Inc, 9119 Gaither Rd, Gaithersburg, MD 20877 USA (Reprint); Biosynexus Inc, Gaithersburg, MD 20877 USA; Uniformed Serv Univ Hlth Sci, Bethesda, MD 20814 USA. AndyLees@Biosynexus.com. VACCINE (6 FEB 2006) Vol. 24, No. 6, pp. 716-729. ISSN: 0264-410X. Publisher: ELSEVIER SCI LTD, THE

BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND.
Language: English.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Applications of oxime chemistry are described for the efficient bioconjugation of proteins and polysaccharides for the preparation of conjugate vaccines. A number of approaches are described in this manuscript to functionalize, proteins and polysaccharides with aminooxy (AO) groups and aldehydes which could then be covalently linked to each other via oxime formation, without the need for reduction. By using limiting numbers of active groups on each component, the extent of inter- and intramolecular crosslinking Could be controlled. The approaches described are compatible and complementary to a number of chemistries currently used in conjugate vaccine synthesis. Oxime chemistry can be used to both simplify the synthesis of and **increase yields** of conjugate vaccines. Mice immunized with pneumococcal type 14 conjugates that were made using oxime chemistry mounted significant anti-polysaccharide immune responses. The primary immune response could be boosted, indicating that the polysaccharide conjugate had characteristics of a T cell dependent antigen.

L12 ANSWER 5 OF 24 EMBASE DUPLICATE 1
2006309126 EMBASE Recombinant kallikrein expression: Site-specific integration for hK6 production in human cells. Heuze-Vourc'h N.; Ainciburu M.; Planque C.; Brillard-Bourdet M.; Ott C.; Jolivet-Reynaud C.; Courty Y.. N. Heuze-Vourc'h, INSERM, U618 'Proteases et Vectorisation Pulmonaires', F-37032 Tours, France. heuze_vourch@yahoo.fr. Biological Chemistry Vol. 387, No. 6, pp. 687-695 1 Jun 2006.
Refs: 51.
ISSN: 1431-6730. E-ISSN: 1437-4315. CODEN: BICHF3
B3876687. Pub. Country: Germany. Language: English. Summary Language: English.
Entered STN: 20060801. Last Updated on STN: 20060801

AB Kallikreins have been implicated in carcinogenesis and are promising biomarkers for the diagnosis and follow-up of various cancers. To evaluate the functions and clinical interest of kallikreins, it is important to be able to produce them as recombinant proteins. Here we summarize the various strategies used to produce kallikreins, emphasizing their advantages and limitations. We also describe an approach to achieve high-level production of kallikreins, such as hK6, with correct folding and activity, combining an expression system with targeted transgene integration and an efficient cultivation device to **increase yield**, the CELLine bioreactor. This novel method for recombinant kallikrein production will be useful to study their bio-pathological functions and to develop **antibodies.**

L12 ANSWER 6 OF 24 CAPLUS
2006:856835 Disaggregation and refolding of aggregated monoclonal **antibodies**: using high hydrostatic pressure as an effective purification method. Hesterberg, Lyndal K.; Allan, Christian B. (BaroFold, Inc, Boulder, CO, 80304, USA). Abstracts of Papers, 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006, BIOT-075. American Chemical Society: Washington, D. C. (English) 2006. CODEN: 69IHRD.

AB Protein aggregates reduce yields, increase costs and can require specific downstream process steps during manufacturing High yielding expression systems for humanized monoclonal **antibodies** may generate significant levels of soluble aggregates (dimers, trimers, tetramers of the **antibody**) during cell culture production because of the high concentration of the **antibodies** and extended temps. at 37°C. Protein A/G affinity chromatog. is routinely used to sep. the **antibody** from host cell proteins and other components in the cell culture, either as a direct capture step or a polishing step in the downstream purification

However, soluble aggregates of **antibodies** are not separated from monomers using Protein A/G chromatog. High Hydrostatic Pressure PreEMT (TM) technol. has been demonstrated to be a novel, inexpensive and effective alternative to traditional methods of aggregate removal by eliminating **antibody** aggregates directly without the need of an addnl. purification step and, in the same high pressure treatment step, **increase yields** of correctly folded **antibody**.

L12 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

2004:754417 Document No. 141:256532 Soluble derivatives of human neutral hyaluronidase and their secretory manufacture for use in therapeutic modulation of glycosaminoglycan metabolism. Bookbinder, Louis H.; Kundu, Anirban; Frost, Gregory I. (Deliatroph Pharmaceuticals, Inc., USA). PCT Int. Appl. WO 2004078140 A2 20040916, 210 pp. DESIGNATED STATES: W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2004-US6656 20040305. PRIORITY: US 2003-452360P 20030305.

AB A variant of human neutral active hyaluronidase with improved solubility is constructed and a cDNA encoding it is cloned for manufacture of the enzyme for use in the the treatment of glycosaminoglycan-associated pathologies. This variant of the enzyme lacks its hydrophobic C-terminal domain including the GPI anchor to improve solubility and **increase yields** of secreted activity. Minimally active domains of the enzyme, including asparagine-linked glycosidation required for a functional enzyme are identified. Secretory manufacture of the enzyme and the use of leader peptides that increase the efficiency of secretion of the enzyme are also described. The signal and leader peptide of the enzyme is unusually long and may play a role in limiting secretion by promoting aggregation. Replacing it with the signal peptide of the mouse Ig κ chain increased yields of secreted enzyme by .apprx.6-fold. Modified forms of the enzyme, e.g. sialylated and PEGylated, with increased stability and serum pharmacokinetics over naturally occurring slaughterhouse enzymes are described. Further described are suitable formulations of a substantially purified recombinant sHASEGP glycoprotein derived from a eukaryotic cell that generate the proper glycosylation required for its optimal activity.

L12 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

2003:511966 Document No. 139:80275 Polyvalent cation-sensing receptors in Atlantic salmon and use thereof in modulating responses of transgenic fish to environmental salinity. Harris, H. William; Nearing, Jacqueline; Betka, Marlies (Marical, LLC, USA). U.S. Pat. Appl. Publ. US 2003124657 A1 20030703, 140 pp., Cont.-in-part of U. S. Ser. No. 121,441, abandoned. (English). CODEN: USXXCO. APPLICATION: US 2002-125772 20020418. PRIORITY: US 2000-240392P 20001012; US 2000-240003P 20001012; WO 2001-US31704 20011011; US 2002-121441 20020411.

AB Three genes for Polyvalent Cation-Sensing Receptors (PVCR) in Atlantic Salmon are cloned and characterized for use in engineering the ability of the fish to respond to changes in environmental salinity during development. These PVCR have been named SalmoKCaR#1, SalmoKCaR#2 (only one claimed), and SalmoKCaR#3. The genes can be used to speed the adaptation of young fish to living in seawater during smoltification and accelerate their growth. The present invention includes homologs thereof, **antibodies** thereto, and methods for assessing SalmoKCaR nucleic acid mols. and polypeptides. The present invention further includes plasmids, vectors, host cells containing the nucleic acid sequences of SalmoKCaR #1,2 and/or 3. The genes were identified by degenerate PCR using primers derived from a shark calcium channel gene. Tissue distribution of the mRNAs varied as a function of growth in saltwater vs.

freshwater. Use of new methods to control polyvalent cation levels in the aquaculture of salmon are shown to improve growth and development and to **increase yields** is demonstrated.

L12 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
2003:334505 Document No. 138:351367 Polyvalent cation-sensing receptor proteins of Salmo salar and its use in modulating responses to environmental salinity. Harris, H. William; Nearing, Jacqueline; Betka, Marlies (Marical, LLC, USA). U.S. Pat. Appl. Publ. US 2003082574 A1 20030501, 140 pp., Cont.-in-part of U. S. Ser. No. 121,441, abandoned. (English). CODEN: USXXCO. APPLICATION: US 2002-125778 20020418. PRIORITY: US 2000-240392P 20001012; US 2000-240003P 20001012; WO 2001-US31704 20011011; US 2002-121441 20020411.
AB Three genes for Polyvalent Cation-Sensing Receptors (PVCR) in Atlantic Salmon are cloned and characterized for use in engineering the ability of the fish to respond to changes in environmental salinity during development. These PVCR have been named SalmoKCaR#1, SalmoKCaR#2, and SalmoKCaR#3. The genes can be used to speed the adaptation of young fish to living in seawater during smoltification and accelerate their growth. Similarly, a knowledge of the adaptation to seawater can be used to develop feeding and growth practices that improve adaptation, survival, growth and widen the window for release of smolts into ocean waters. The present invention includes homologs thereof, **antibodies** thereto, and methods for assessing SalmoKCaR nucleic acid mols. and polypeptides. The present invention further includes plasmids, vectors, host cells containing the nucleic acid sequences of SalmoKCaR #1,2 and/or 3. The genes were identified by degenerate PCR using primers derived from a shark calcium channel gene. Tissue distribution of the mRNAs varied as a function of growth in saltwater vs. freshwater. Use of new methods to control polyvalent cation levels in the aquaculture of salmon are shown to improve growth and development and to **increase yields** is demonstrated.

L12 ANSWER 10 OF 24 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
2003204377 EMBASE Design and selection of ligands for affinity chromatography. Labrou N.E.. N.E. Labrou, Laboratory of Enzyme Technology, Dept. of Agricultural Biotechnology, Agricultural University of Athens, 75 Iera Odos Street, GR-11855 Athens, Greece. lambrou@aua.gr. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences Vol. 790, No. 1-2, pp. 67-78 25 Jun 2003.
Refs: 93.
ISSN: 1570-0232. CODEN: JCBAAI
Pub. Country: Netherlands. Language: English. Summary Language: English.
Entered STN: 20030605. Last Updated on STN: 20030605
AB Affinity chromatography is potentially the most selective method for protein purification. The technique has the purification power to eliminate steps, **increase yields** and thereby improve process economics. However, it suffers from problems regarding ligand stability and cost. Some of the most recent advances in this area have explored the power of rational and combinatorial approaches for designing highly selective and stable synthetic affinity ligands. Rational molecular design techniques, which are based on the ability to combine knowledge of protein structures with defined chemical synthesis and advanced computational tools, have made rational ligand design feasible and faster. Combinatorial approaches based on peptide and nucleic acid libraries have permitted the rapid synthesis of new synthetic affinity ligands of potential use in affinity chromatography. The versatility of these approaches suggests that, in the near future, they will become the dominant methods for designing and selection of novel affinity ligands with scale-up potential.

L12 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
2001:713570 Document No. 135:270245 The corn fae2 gene involved in meristem

proliferation and inflorescence development and use of the gene and promoter in plant breeding. Jackson, David P.; Taguchi Shiobara, Fumio; Hake, Sarah; Yuan, Zhuang (Cold Spring Harbor Laboratory, USA). PCT Int. Appl. WO 2001070987 A2 20010927, 73 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US8709 20010319. PRIORITY: US 2000-PV190160 20000317.

AB The invention relates to the isolation and characterization of a novel maize gene (fae2 (fasciated ear 2)) responsible for meristem proliferation and inflorescence development. The novel gene, gene product, and regulatory regions may be used to manipulate meristem growth, inflorescence development and arrangement, and ultimately to improve yield of plants. The invention includes the novel gene and protein product as well as the use of the same for temporal and spatial expression in transgenic plants to enhance kernel development, alter plant morphol. and **increase yield** in plants. The gene was first identified as having an effect on fasciation of ears and the morphol. of the tassel. The gene was cloned after tagging with Mu; two Mu-tagged alleles were identified. The gene has no introns and appears to encode a member of the leucine-rich repeat family of transmembrane receptors.

L12 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

2001:671093 Document No. 135:209935 Cosecretion of chaperones and low-molecular-size medium additives increases the yield of recombinant disulfide-bridged proteins. Schaffner, Jorg; Winter, Jeannette; Rudolph, Rainer; Schwarz, Elisabeth (Institut fur Biotechnologie, Martin-Luther-Universitat Halle-Wittenberg, Halle, 06120, Germany). Applied and Environmental Microbiology, 67(9), 3994-4000 (English) 2001. CODEN: AEMIDF. ISSN: 0099-2240. Publisher: American Society for Microbiology.

AB Attempts were made to engineer the periplasm of Escherichia coli to an expression compartment of heterologous proteins in their native conformation. As a first approach the low-mol.-size additive L-arginine and the redox compound glutathione (GSH) were added to the culture medium. Addition of 0.4 M L-arginine and 5 mM reduced GSH increased the yield of a native tissue-type plasminogen activator variant (rPA), consisting of the kringle-2 and the protease domain, and a single-chain **antibody** fragment (scFv) up to 10- and 37-fold, resp. A variety of other medium additives also had pos. effects on the yield of rPA. In a second set of expts., the effects of cosecreted ATP-independent mol. chaperones on the yields of native therapeutic proteins were investigated. At optimized conditions, cosecretion of E. coli DnaJ or murine Hsp25 increased the yield of native rPA by a factor of 170 and 125, resp. Cosecretion of DnaJ also dramatically increased the amount of a second model protein, native proinsulin, in the periplasm. The results of this study are anticipated to initiate a series of new approaches to increase the yields of native, disulfide-bridged, recombinant proteins in the periplasm of E. coli.

L12 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

1998:640360 Document No. 129:271519 Vectors and methods for site-specific integration of transforming DNA in mammalian cells. Reff, Mitchell E.; Barnett, Richard Spence; McLachlan, Karen Retta (IDEC Pharmaceuticals Corp., USA). PCT Int. Appl. WO 9841645 A1 19980924, 114 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL,

PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US3935 19980309. PRIORITY: US 1997-819866 19970314.

AB A two step method for site specific integration of a desired DNA at a target site in a mammalian cell via homologous recombination is described. The method involves first transforming cells with DNA carrying a selectable marker allowing transformants to be screened for efficient expression of the integrated gene. Transformants showing high level expression are then transformed with a second vector designed to integrate into the first vector. Succesful integration leads to the formation of an intact copy of a gene for a second selectable marker allowing transformants to be directly screened for. The method minimizes background and maximizes expression of the foreign gene. It is particularly suitable for the preparation of mammalian cell lines secreting mammalian proteins at high levels, in particular Igs. Vectors and vector combinations for use in the method are also described. These vectors use prior art regulatory and nucleic acid-processing sequences in expression cassettes. Use of the method to create histidinol-resistant CHO cells carrying a neomycin phosphotranferase gene that were then transformed with a plasmid targetted at the phosphotransferase sequences and carrying an expression cassette for an **antibody** to CD20 is demonstrated. Yields of 3.5 pg **antibody**/cell/day were obtained with peak yields of 4.9 pg **antibody**/cell/day. If the integrating DNA also contains a dihydrofolate reductase gene, the region can be amplified with methotrexate to further **increase yields.** Yields of 15-18 pg **antibody**/cell/day were obtained in a first round of amplification and increased to 55-60 pg **antibody**/cell/day in subsequent amplifications.

L12 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

1996:721737 Document No. 126:4832 An acetyl CoA carboxylase cDNA from maize and its use in the preparation of herbicide-resistant plants and altering patterns of fatty acid synthesis. Gengenbach, Burle G.; Somers, David A.; Wyse, Donald L.; Gronwald, John W.; Egli, Margaret A.; Lutz, Sheila M. (Regents of the University of Minnesota, USA). PCT Int. Appl. WO 9631609 A2 19961010, 130 pp. DESIGNATED STATES: W: BR, CA, MX, RU, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US4625 19960404. PRIORITY: US 1995-417089 19950405.

AB A complete cDNA of maize acetyl CoA carboxylase is reported and methods of using the cDNA to confer herbicide tolerance or altering the oil content of plants are described. Expression of the cDNA in a plant host in a sense or an antisense orientation is used to increase herbicide tolerance or resistance. Similarly, these expression cassettes can be used to alter the oil content of a plant. The expression cassette can also be introduced into other host cells to **increase yield** of a plant acetyl CoA carboxylase so that crystallized enzyme can be used to screen and identify other herbicides that bind to and inhibit the enzyme. The enzyme is shown to be the site of action of sethoxydim and haloxyfop and sethoxydim-tolerant cell line was shown to have an altered carboxylase. Antisera to affinity-purified enzyme were used to screen a cDNA expression library in λgt11. A full-length cDNA and partial cDNAs for a number of isoenzymes were obtained.

L12 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

1993:402491 Document No. 119:2491 Activator gene for macrolide biosynthesis. Rao, Ramachandra Nagaraja; Turner, Jan Ross (Eli Lilly and Co., USA). Eur. Pat. Appl. EP 524832 A2 19930127, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1992-306792 19920724. PRIORITY: US 1991-736178 19910726.

AB A gene (srmR) encoding a protein that increases the efficiency of transcription of genes involved in macrolide biosynthesis in Streptomyces ambofaciens is identified. The gene is used to increase levels of transcription of genes of macrolide biosynthesis to **increase yields** of these compds. in fermn and identification of similar

genes (no data). The gene was cloned from a cosmid carrying the genes for spiramycin biosynthesis of Streptomyces by complementation of the gene after insertional inactivation.

L12 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
1992:446549 Document No. 117:46549 Method for obtaining recombinant surface antigen of hepatitis b virus (HBsAg) of higher immunogenic capacity and use thereof in a vaccine preparation. Mucio Gonzalez, Verena Lucila; Penton Arias, Eduardo; Palou Garcia, Manuel; Fontirrochi Escobar, Giuvel; Nazabal Galvez, Marcelo; Gonzalez Griego, Marta de Jesus; Beldarrain Iznaga, Alejandro; Pardron Gonzalez, Guillermo Julio; Ramirez Alvage, Victoria; et al. (Centro de Ingenieria Genetica y Biotecnologia (CIGB), Cuba). Eur. Pat. Appl. EP 480525 A2 19920415, 24 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1991-202615 19911007. PRIORITY: CU 1990-155 19901008.

AB A process for recovering expressed HBsAg from Pichia pastoris cells comprises: (a) lysing the cells in buffer comprising a chaotropic agent, sucrose, and EDTA; (b) precipitating contaminants at acid pH; (c) subjecting the antigen to acid adsorption and alkaline desorption on diatomaceous earth; (d) immunoaffinity chromatog. of the antigen using monoclonal **antibody**; (e) subjecting eluted antigen to heat treatment at 30-40°; (f) washing the antigen in an anion-exchange column with detergent; and (g) HPLC of eluted antigen in the presence of detergent. The process **increases yield** of pure HBsAg in a particulate form having high immunogenicity. Cloning and purification of HBsAg, production of monoclonal **antibody**, and preparation of vaccine are presented.

L12 ANSWER 17 OF 24 MEDLINE on STN DUPLICATE 2
92026871. PubMed ID: 1928712. [Recombinant erythropoietin in autologous blood donation]. Rekombiniertes Erythropoetin wahrend autologer Blutspenden. von Bormann B; Weidler B; Friedrich M; von Andrian-Werburg H. (Abteilungen fur Anaesthesiologie und Operative Intensivmedizin, St. Johannes-Hospital, Duisburg-Hamborn.) Der Anaesthesist, (1991 Jul) Vol. 40, No. 7, pp. 386-90. Journal code: 0370525. ISSN: 0003-2417. Pub. country: GERMANY: Germany, Federal Republic of. Language: German.

AB As a result of the AIDS crisis, public and physician pressure have increased the utilization of autologous blood products. Attitudes about homologous blood transfusion, however, have changed dramatically in recent years. A large segment of the population undergoing elective surgery is elderly and therefore has a significant incidence of cardiovascular disease and a slow response of the erythropoietic system when acute anemia occurs. However, preoperative autologous blood donation programs require 2-5 weeks to complete; the average yield is only 2.2 units per patient. As a consequence, autologous predonation is underused and homologous transfusion cannot be completely avoided in all patients. For several years recombinant human erythropoietin (rHuEPO) has been available and has been successfully used in the treatment of patients with renal anemia. This study evaluated the effect of r-HuEPO on patients with preoperative autologous blood collection. METHODS. Ten patients of both sexes scheduled for hip arthroplasty underwent a preoperative autologous program. During a period of 23 days prior to surgery autologous blood donation was performed with 7.5 ml/kg withdrawal on four occasions, the last one 5 days prior to surgery. Five patients were randomly treated with subcutaneous injections of rHuEPO (Erypo, Cilag GmbH, Sulzbach; Distributor: Fresenius AG, Oberursel, FRG) 200 IU/kg seven times, starting 3 days after the first blood withdrawal. All patients (n = 10) received oral iron therapy with iron sulphate 304 mg/die (= 100 mg iron/die). Patients with hypertension or recent myocardial infarction were excluded from the study. The hemoglobin level before donation had to be at least 11.0 g/dl. On each study day, a complete blood count and platelets, differential, and reticulocyte count were determined by standard methods as were transferrin, ferritin, and total iron-binding capacity. Blood loss and blood consumption during and after the operation were registered.

The indication for blood transfusion (autologous/homologous) was based on hemoglobin values, which were not acceptable below 8.5 g/dl. RESULTS. No side effects of rHuEPO treatment were observed. Blood loss ranged from 650 to 1100 ml intraoperatively and 400 to 950 ml postoperatively with no differences between the groups. Patients with rHuEPO had no autologous red cell concentrates (aRCC) during the operation; two of them had two units of aRCC on the 2nd postoperative day. Two of the patients in the control group had intraoperative blood transfusions (2 and 3 units aRCC, respectively); all patients in this group were transfused postoperatively: 12 of the 20 units collected were utilized. At the onset of the operation the mean hemoglobin value in patients with rHuEPO was 13.5 +/- 0.4 g/dl compared to 11.3 +/- 0.3 g/dl in the controls. Reticulocytes increased significantly during the investigation period. On the 2nd, 3rd, and 4th days of autologous blood collection and before the onset of surgery, the number of reticulocytes was significantly greater in rHuEPO patients than in the controls. Further laboratory variables such as transferrin, ferritin, and total iron-binding capacity did not change significantly during the investigation period; there were no significant differences between the two groups. DISCUSSION. The results of the present study show that rHuEPO leads to an increase in reticulocytes with maintenance of hemoglobin levels during the phlebotomy program. As a consequence, patients with anemia and particular contraindications to homologous blood derivatives (irregular **antibodies**, Jehovah's Witnesses) may be able to undergo major surgery successfully. The possibility of shortening the intervals between phlebotomies would seem to be of major advantage; our data also suggest that an aggressive autologous blood collection program would **increase yields** over present programs.
In our institute a minimum hemoglobin level of 11.5 g/dl is accepted for autologous donation. (ABSTRACT TRUNCATED AT 400 WORDS)

L12 ANSWER 18 OF 24 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
1990:10809 Document No.: PREV199038000109; BR38:109. USING **ANTIBODIES** TO **INCREASE YIELDS.** DIXON B [Reprint author]. LONDON, UK. Bio-Technology (New York), (1989) Vol. 7, No. 11, pp. 1118. CODEN: BTCHDA. ISSN: 0733-222X. Language: ENGLISH.

L12 ANSWER 19 OF 24 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN
1989:568166 The Genuine Article (R) Number: AX105. LIVESTOCK PRODUCTION - USING **ANTIBODIES** TO **INCREASE YIELDS.** DIXON B. BIO-TECHNOLOGY (NOV 1989) Vol. 7, No. 11, pp. 1118-1118. ISSN: 0733-222X. Publisher: NATURE PUBLISHING CO, 345 PARK AVE SOUTH, NEW YORK, NY 10010-1707. Language: English.

L12 ANSWER 20 OF 24 MEDLINE on STN DUPLICATE 3
89231585. PubMed ID: 2714231. A method for recovery of native, clonally-restricted immunoglobulins from agarose gels. Janson R W; Vertosick F T Jr; Kelly R H. (Departments of Medicine, University of Pittsburgh School of Medicine, PA.) Electrophoresis, (1989 Jan) Vol. 10, No. 1, pp. 11-5. Journal code: 8204476. ISSN: 0173-0835. Pub. country: GERMANY, EAST: German Democratic Republic. Language: English.
AB Multiple low level, clonally-restricted, immunoglobulins (Ig) are commonly encountered on routine serum protein electrophoresis by clinical laboratories using high resolution zone electrophoresis on agarose. We sought a method for recovering the clonally-restricted Ig, in native configuration, from clinical laboratory gels as a first step in the investigation of its clinical significance. We found that a two-stage electrophoretic procedure gave consistently good recoveries. After routine agarose gel electrophoresis, portions of the electropherogram, containing clonally-restricted Ig, were excised and subjected to flatbed isoelectric focusing in agarose to enhance separation of the individual **antibody** clonotypes. Multiple slabs, containing the same clonally-restricted Ig, could be cut from adjacent tracks (i.e., tracks loaded with the same specimen) on the zone electropherogram and applied to

a single track on the focusing gel to improve separation and **increase yields.** The focused gels were cut to isolate slabs containing individual clonotypes. These slabs were washed to remove carrier ampholytes and held at -20 degrees C overnight. Ig was extracted from the thawed gels, with 61-68% recovery, by ultracentrifugation following physical disruption of the gel. Antigen binding activity of the recovered Ig was verified by rate nephelometry. Clonally-restricted **antibodies** were successfully isolated from an immune animal serum by this procedure and biotinylated for use as probes on Western blots.

L12 ANSWER 21 OF 24 MEDLINE on STN DUPLICATE 4

84263122. PubMed ID: 6235176. Comparison of various preparations of nuclear antigens by hemagglutination inhibition (HAI). Boak A M; Kincaid L A; Treadwell E L; McDonald P; Ellis K R; Sharp G C; Agris P F. Immunological communications, (1984) Vol. 13, No. 2, pp. 127-36. Journal code: 0353016. ISSN: 0090-0877. Pub. country: United States. Language: English.

AB A clinical laboratory carrying out tests for antinuclear **antibodies** requires an efficient, reliable preparation method to produce a high yield of nuclear antigens at low cost and a very sensitive, specific assay method for antigen activity. Various tissues were employed for preparation of small nuclear ribonucleoprotein (snRNP) and Sm antigens for these purposes. Fresh calf thymus cells and nuclei, commercially available calf and rabbit thymus acetone powders, fresh rat kidney and liver cells were used as sources of antigens prepared similarly by methods published previously. Preparations of antigens from whole calf thymus cell extracts were prepared with and without inhibitors to protease and RNase. snRNP and Sm antigens were assayed at each preparation step by hemagglutination inhibition (HAI). Using HAI it was possible to routinely assay snRNP and Sm at nanogram/ml quantities which was 10(6) fold more sensitive than Ouchterlony immunodiffusion. Results were expressed as relative specific activity as compared with calf thymus nuclear extract prepared by conventional methods. Protease and RNase inhibitors did not significantly **increase yields.** Thymus was the best source of snRNP and Sm. Fresh calf thymus extract produced a good, stable, reliable quantity of antigens, whereas calf and rabbit thymus acetone powders provided antigen at higher specific activity with less labor but slightly lower yields. Thus, considering the total cost of preparations, commercial sources may be superior to fresh sources in the clinical laboratory setting. These studies also revealed the utility of the sensitive HAI test not only in the clinical laboratory but also for further research endeavors.

L12 ANSWER 22 OF 24 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

1982:130314 The Genuine Article (R) Number: NG282. **ANTIBODY** IN CULTURES OF PLASMODIUM-FALCIPARUM **INCREASES YIELD** OF MEROZOITE ANTIGENS. LYON J A (Reprint); HAYNES J D; PAVIA C A; DIGGS C L. WALTER REED ARMY INST RES, WASHINGTON, DC 20012. FEDERATION PROCEEDINGS (1982) Vol. 41, No. 3, pp. 585-585. ISSN: 0014-9446. Publisher: FEDERATION AMER SOC EXP BIOL, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3998 USA. Language: English.

L12 ANSWER 23 OF 24 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

1982:119660 Document No.: PREV198223049652; BR23:49652. **ANTIBODY** IN CULTURES OF PLASMODIUM-FALCIPARUM **INCREASES YIELD** OF MEROZOITE ANTIGENS. LYON J A [Reprint author]; HAYNES J D; PAVIA C A; DIGGS C L. WALTER REED ARMY INST RES, WASHINGTON, DC 20012, USA. Federation Proceedings, (1982) Vol. 41, No. 3, pp. ABSTRACT 1841. Meeting Info.: 66TH ANNUAL MEETING OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY, NEW ORLEANS, LA., USA, APRIL 15-23, 1982. FED PROC.
CODEN: FEPRA7. ISSN: 0014-9446. Language: ENGLISH.

L12 ANSWER 24 OF 24 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN

81214887 EMBASE Document No.: 1981214887. Growth of 17D yellow fever virus in a macrophage-like cell line, U937: Role of Fc and viral receptors in **antibody**-mediated infection. Schlesinger J.J.; Brandriss M.W.. Dept. Med., Univ. Rochester Sch. Med. Dent., N.Y., United States. Journal of Immunology Vol. 127, No. 2, pp. 659-665 1981.
CODEN: JOIMA3
Pub. Country: United States. Language: English.
Entered STN: 911209. Last Updated on STN: 911209

AB Growth characteristics of 17D yellow fever virus (17D-YF) and conditions for infection were studied in U937, a macrophage-like, Fc receptor-bearing continuous human cell line. **Antibody** to 17D-YF was obtained by immunization of normal subjects with 17D-YF vaccine. Cells were infected in the presence or absence of immune whole sera or immunoglobulin fractions. Infection of U937 was temperature dependent; the yield of virus was variable but at low temperature viral titers were consistently higher when infection was established in the presence of **antibody**. Results of infectious center assays indicated that the increased yield of virus was largely or entirely due to an **increase** **yield** in the number of cells producing virus early in the course of infection. Enhancement of viral growth was mediated by IgG but not IgM fractions of immune sera. Trypsinization of U937 resulted in a 90 to 95% reduction of infection in the absence of **antibody** but in the presence of **antibody** viral titers were higher in trypsinized than in nontrypsinized cells. **Antibody** to 17D-YF, contained in the whole IgG fraction of sera, bound to U937 to mediate infection without first being complexed to virus. Preincubation of U937 with IgG1 but not IgG2 myeloma proteins abrogated **antibody**-mediated infection. This result is compatible with the known affinities of U937 Fc receptors for specific subclasses of IgG and provides evidence for the role of the Fc receptors in **antibody**-mediated enhancement of viral growth. Persistent infection characterized by a lack of detectable cytopathogenic effect was established in long-term cultures of U937. This pattern of infection might be related to the unique effectiveness of the 17D-YF vaccine.

```
=> s heavy chain framework
L13          99 HEAVY CHAIN FRAMEWORK

=> s l13 and increase yield
L14           0 L13 AND INCREASE YIELD

=> s l13 and improved yield
L15           0 L13 AND IMPROVED YIELD

=> s l13 and improved folding efficiency
L16           0 L13 AND IMPROVED FOLDING EFFICIENCY

=> s substitution heavy chain FR1
L17           0 SUBSTITUTION HEAVY CHAIN FR1

=> s l13 and FR1
L18          12 L13 AND FR1

=> s l18 and yield
L19           0 L18 AND YIELD

=> s l13 and subgroup consensus sequence
L20           0 L13 AND SUBGROUP CONSENSUS SEQUENCE

=> s l13 and humanized
L21          30 L13 AND HUMANIZED
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=> s l21 and HVR1
L22           0 L21 AND HVR1

=> s l21 and increased assembled
L23           0 L21 AND INCREASED ASSEMBLED

=> s method

=> s method making
L24        1417 METHOD MAKING

=> s l24 and antibod?
L25          34 L24 AND ANTIBOD?

=> s l25 and increased assembled antibody
L26           0 L25 AND INCREASED ASSEMBLED ANTIBODY

=> s increased assembled antibody
L27           0 INCREASED ASSEMBLED ANTIBODY

=> s improved folding effiency
L28           0 IMPROVED FOLDING EFFIENCY

=> s anti-VEGF
L29        3620 ANTI-VEGF

=> s l29 and humanized
L30         214 L29 AND HUMANIZED

=> s l30 and HVR1 consensus sequence
L31           0 L30 AND HVR1 CONSENSUS SEQUENCE

=> s l30 and increased yield
L32           0 L30 AND INCREASED YIELD

=> s anti-IgE
L33       10326 ANTI-IGE

=> s l33 and humanized
L34         523 L33 AND HUMANIZED

=> s l34 and increased yield
L35           0 L34 AND INCREASED YIELD

=> s l34 and improved folding
L36           0 L34 AND IMPROVED FOLDING

=> s l34 and yield
L37           3 L34 AND YIELD

=> dup remove l37
PROCESSING COMPLETED FOR L37
L38           2 DUP REMOVE L37 (1 DUPLICATE REMOVED)

=> d l38 1-2 cbib abs

L38  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:633952   Document No. 141:156117  Methods for producing and improving
     yield of humanized or chimeric antibodies and fragments
     in cell culture.  Simmons, Laura (Genentech, Inc., USA).  PCT Int. Appl.
     WO 2004065417 A2 20040805, 161 pp.  DESIGNATED STATES: W:  AE, AE, AG, AL,
     AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY,
     BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK,
     DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR,
     HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR,
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KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI. (English). CODEN: PIXXD2. APPLICATION: WO 2004-US1844 20040123. PRIORITY: US 2003-442484P 20030123.

AB The present invention provides methods for producing **humanized** antibodies and increasing the **yield** of antibodies and/or antigen binding fragments when produced in cell culture. The antibodies are anti-VEGF and **anti-IgE** antibodies. In one aspect of the invention, at least one framework region amino acid residue of the variable domain is substituted by a corresponding amino acid from a variable domain consensus sequence subgroup that has the most sequence identity with the HVRI and/or HVR2 amino acid sequence of the variable domain. In another aspect, an amino acid is placed at a position proximal to a cys residue that participates in an intrachain variable domain disulfide bond that corresponds to an amino acid found at that position in a variable domain consensus sequence subgroup that has the most sequence identity with the HVR1 and/or HVR2 amino acid sequence of the variable domain.

L38 ANSWER 2 OF 2 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 1

1998:472908 Document No.: PREV199800472908. Spray-drying performance of a bench-top spray dryer for protein aerosol powder preparation. Maa, Yuh-Fun [Reprint author]; Nguyen, Phuong-Anh; Sit, Kin; Hsu, Chung C.. Pharm. Res. Dev., Genntech Inc., 1 DNA Way, South San Francisco, CA 94080, USA. Biotechnology and Bioengineering, (Nov. 5, 1998) Vol. 60, No. 3, pp. 301-309. print.
CODEN: BIBIAU. ISSN: 0006-3592. Language: English.

AB The objective of this work was to improve a bench-top spray dryer's efficiency in both production recovery and throughput for preparing protein aerosol powders. A Buchi mini-spray dryer was used to prepare the powders of recombinant **humanized anti-IgE** antibody. The resulting powder's physical properties such as particle size, residual moisture, and morphology, along with its recovery and production rate was the basis of this development work. Mass balance suggests that approximately 10-20% of powder was lost in the exhaust air, consisting primarily of particles less than 2 mum. Also, significant loss (20-30%) occurred in the cyclone. Attempts were made to improve product recovery in the receiving vessel using dual-cyclone configurations, different cyclone designs, cyclones with anti-static treatment, and different receiver designs. System modifications such as replacing the original bag-filter unit with a vacuum system effectively reduced drying air flow resistance, allowing the protein to be dried at a lower inlet air temperature and the production scale to be increased. We concluded that the modified spray-drying system is advantageous over the original bench-top spray dryer. This improvement will be beneficial to early-stage research and development involving high-valued protein powders.

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FILE 'MEDLINE, EMBASE, BIOSIS, SCISEARCH, CAPLUS' ENTERED AT 09:06:52 ON 31 AUG 2007

L1	3015896	S ANTIBOD?
L2	5343	S L1 AND CONSENSUS SEQUENCE
L3	0	S L2 AND IMPROVED FOLDING EFFICIENCY
L4	0	S L2 AND INCREASE YIELD
L5	26327	S L1 AND SUBSTITUTION
L6	7	S L5 AND HEAVY CHAIN FRAMEWORK
L7	3	DUP REMOVE L6 (4 DUPLICATES REMOVED)
L8	2	S FRAMEWORK CONSENSUS SEQUENCE
L9	2	DUP REMOVE L8 (0 DUPLICATES REMOVED)
L10	4363	S INCREASE YIELD
L11	32	S L10 AND ANTIBOD?

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L12           24 DUP REMOVE L11 (8 DUPLICATES REMOVED)
L13           99 S HEAVY CHAIN FRAMEWORK
L14            0 S L13 AND INCREASE YIELD
L15            0 S L13 AND IMPROVED YIELD
L16            0 S L13 AND IMPROVED FOLDING EFFICIENCY
L17            0 S SUBSTITUTION HEAVY CHAIN FR1
L18           12 S L13 AND FR1
L19            0 S L18 AND YIELD
L20            0 S L13 AND SUBGROUP CONSENSUS SEQUENCE
L21           30 S L13 AND HUMANIZED
L22            0 S L21 AND HVR1
L23            0 S L21 AND INCREASED ASSEMBLED
L24         1417 S METHOD MAKING
L25           34 S L24 AND ANTIBOD?
L26            0 S L25 AND INCREASED ASSEMBLED ANTIBODY
L27            0 S INCREASED ASSEMBLED ANTIBODY
L28            0 S IMPROVED FOLDING EFFIENCY
L29         3620 S ANTI-VEGF
L30          214 S L29 AND HUMANIZED
L31            0 S L30 AND HVR1 CONSENSUS SEQUENCE
L32            0 S L30 AND INCREASED YIELD
L33        10326 S ANTI-IGE
L34          523 S L33 AND HUMANIZED
L35            0 S L34 AND INCREASED YIELD
L36            0 S L34 AND IMPROVED FOLDING
L37            3 S L34 AND YIELD
L38            2 DUP REMOVE L37 (1 DUPLICATE REMOVED)

=> s l1 and improv?
L39       115162 L1 AND IMPROV?

=> s l39 and yield
L40         3203 L39 AND YIELD

=> s l40 and framework
L41           81 L40 AND FRAMEWORK

=> s l41 and consensus sequence
L42            7 L41 AND CONSENSUS SEQUENCE

=> dup remove l42
PROCESSING COMPLETED FOR L42
L43            3 DUP REMOVE L42 (4 DUPLICATES REMOVED)

=> d l43 1-3 cbib abs

L43  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:633952   Document No. 141:156117  Methods for producing and
     improving yield of humanized or chimeric
     antibodies and fragments in cell culture.  Simmons, Laura
     (Genentech, Inc., USA).  PCT Int. Appl. WO 2004065417 A2 20040805, 161 pp.
     DESIGNATED STATES: W:  AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ,
     BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR,
     CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES,
     FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP,
     KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT,
     LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI.  (English).
     CODEN: PIXXD2.  APPLICATION: WO 2004-US1844 20040123.  PRIORITY: US
     2003-442484P 20030123.
AB   The present invention provides methods for producing humanized
     antibodies and increasing the yield of
     antibodies and/or antigen binding fragments when produced in cell
     culture.  The antibodies are anti-VEGF and anti-IgE
     antibodies.  In one aspect of the invention, at least one
     framework region amino acid residue of the variable domain is
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substituted by a corresponding amino acid from a variable domain **consensus sequence** subgroup that has the most sequence identity with the HVRI and/or HVR2 amino acid sequence of the variable domain. In another aspect, an amino acid is placed at a position proximal to a cys residue that participates in an intrachain variable domain disulfide bond that corresponds to an amino acid found at that position in a variable domain **consensus sequence** subgroup that has the most sequence identity with the HVR1 and/or HVR2 amino acid sequence of the variable domain.

L43 ANSWER 2 OF 3 MEDLINE on STN

2003068504. PubMed ID: 12578364. Structure-based **improvement** of the biophysical properties of immunoglobulin VH domains with a generalizable approach. Ewert Stefan; Honegger Annemarie; Pluckthun Andreas. (Biochemisches Institut, Universitat Zurich, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland.) Biochemistry, (2003 Feb 18) Vol. 42, No. 6, pp. 1517-28. Journal code: 0370623. ISSN: 0006-2960. Pub. country: United States. Language: English.

AB In a systematic study of V gene families carried out with consensus V(H) and V(L) domains alone and in combinations in the scFv format, we found comparatively low expression **yields** and lower cooperativity in equilibrium unfolding in **antibody** fragments containing V(H) domains of human germline families 2, 4, and 6. From an analysis of the packing of the hydrophobic core, the completeness of charge clusters, the occurrence of unsatisfied hydrogen bonds, and residues with low beta-sheet propensities, positive Phi angles, and exposed hydrophobic side chains, we pinpointed residues potentially responsible for the unsatisfactory properties of these germline-encoded sequences. Several of those are in common between the domains of the even-numbered subgroups, but do not occur in the odd-numbered ones. In this study, we have systematically exchanged those residues alone and in combination in two different scFvs using the V(H)6 **framework**, and we describe their effect on equilibrium stability and folding **yield.** We **improved** the stability by 20.9 kJ/mol and the expression **yield** by a factor of 4 and can now use these data to rationally engineer **antibodies** derived from this and similar germline families for better biophysical properties. Furthermore, we provide an **improved** design for libraries exploiting the significant additional diversity provided by these **frameworks.** Both **antibodies** studied here completely retain their binding affinity, demonstrating that the CDR conformations were not affected.

L43 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 1

2002737160. PubMed ID: 12498801. Biophysical properties of human **antibody** variable domains. Ewert Stefan; Huber Thomas; Honegger Annemarie; Pluckthun Andreas. (Biochemisches Institut, Universitat Zurich, Winterthurerstr 190, CH-8057 Zurich, Switzerland.) Journal of molecular biology, (2003 Jan 17) Vol. 325, No. 3, pp. 531-53. Journal code: 2985088R. ISSN: 0022-2836. Pub. country: England: United Kingdom. Language: English.

AB There are great demands on the stability, expression **yield** and resistance to aggregation of **antibody** fragments. To untangle intrinsic domain effects from domain interactions, we present first a systematic evaluation of the isolated human immunoglobulin variable heavy (V(H)) and light (V(L)) germline family consensus domains and then a systematic series of V(H)-V(L) combinations in the scFv format. The constructs were evaluated in terms of their expression behavior, oligomeric state in solution and denaturant-induced unfolding equilibria under non-reducing conditions. The seven V(H) and seven V(L) domains represent the **consensus sequences** of the major human germline subclasses, derived from the Human Combinatorial **Antibody** Library (HuCAL). The isolated V(H) and V(L) domains with the highest thermodynamic stability and **yield** of soluble protein were V(H)3 and V(kappa)3, respectively. Similar measurements on all domain combinations in scFv fragments allowed the scFv fragments to be classified

according to thermodynamic stability and in vivo folding **yield**. The scFv fragments containing the variable domain combinations H3kappa3, H1bkappa3, H5kappa3 and H3kappa1 show superior properties concerning **yield** and stability. Domain interactions diminish the intrinsic differences of the domains. ScFv fragments containing V(lambda) domains show high levels of stability, even though V(lambda) domains are surprisingly unstable by themselves. This is due to a strong interaction with the V(H) domain and depends on the amino acid sequence of the CDR-L3. On the basis of these analyses and model structures, we suggest possibilities for further **improvement** of the biophysical properties of individual **frameworks** and give recommendations for library design.


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=> s (simmons l?/au)
L44       1221 (SIMMONS L?/AU)

=> s l44 and yield
L45          7 L44 AND YIELD

=> dup remove l45
PROCESSING COMPLETED FOR L45
L46          5 DUP REMOVE L45 (2 DUPLICATES REMOVED)

=> d l46 1-5 cbib abs
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L46 ANSWER 1 OF 5 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 1

2006:510675 Document No.: PREV200600496123. A model of pecan tree growth for the management of pruning and irrigation. Andales, Allan; Wang, Junming [Reprint Author]; Sammis, Ted W.; Mexal, John G.; **Simmons, Luke J.** ; Miller, David R.; Gutschick, Vince P.. New Mexico State Univ, Dept Plant and Environm Sci, MSC3Q BOX30003, Las Cruces, NM 88003 USA. jwang@weather.nmsu.edu. Agricultural Water Management, (JUL 16 2006) Vol. 84, No. 1-2, pp. 77-88.
ISSN: 0378-3774. Language: English.

AB Pecans [Carya illinoensis (Wangenh.) C. Koch] are an important cash crop in and southwestern USA. The pecan is an alternate bearing tree and its water use is greater than that of most row crops. Irrigation, pruning amount, and timing must be effectively managed to reduce alternate bearing for maximum profits. A simulation model of pecan growth and **yield** is a potential tool for managing irrigation and pruning amounts and timing. An object-based pecan growth model was developed and validated to simulate daily pecan tree dry matter production, biomass allocation to leaves, nuts, trunk, and branches, and alternate bearing according to inputs of weather data, soil condition, irrigation, and pruning operations. Daily dry matter production per unit of evapotranspiration (water use efficiency) was calculated as a function of average vapor pressure deficit. Biomass allocation functions were derived from tree growth measurements at an orchard near Las Cruces, NM. Alternate bearing was simulated as a function of the level of root starch reserves. it was theorized that the setting of pistillate flowers and subsequent nut **yields** are proportional to the level of root starch reserves in the preceding dormant phase (winter). Mathematical functions for the effects of irrigation and pruning on tree growth and **yield** were derived from the literature and available data. The model was calibrated using 2002, historical, and literature data and validated against 2003 and 2004 data obtained from a mature pecan (Western Schley cultivar) orchard near Las Cruces, NM. Overall accuracy was above 89% for simulated total dry matter production, nut **yield**, tree height, and diameter at breast height (DBH). This model was found to adequately simulate the effects of climate, irrigation, and pruning on pecan tree growth, nut **yield**, and alternate bearing. It can potentially be used to schedule and estimate the amount of irrigation and pruning to optimize

pecan nut **yield.** (c) 2006 Elsevier B.V. All rights reserved.

L46 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
2004:633952 Document No. 141:156117 Methods for producing and improving **yield** of humanized or chimeric antibodies and fragments in cell culture. **Simmons, Laura** (Genentech, Inc., USA). PCT Int. Appl. WO 2004065417 A2 20040805, 161 pp. DESIGNATED STATES: W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI. (English). CODEN: PIXXD2. APPLICATION: WO 2004-US1844 20040123. PRIORITY: US 2003-442484P 20030123.
AB The present invention provides methods for producing humanized antibodies and increasing the **yield** of antibodies and/or antigen binding fragments when produced in cell culture. The antibodies are anti-VEGF and anti-IgE antibodies. In one aspect of the invention, at least one framework region amino acid residue of the variable domain is substituted by a corresponding amino acid from a variable domain consensus sequence subgroup that has the most sequence identity with the HVRI and/or HVR2 amino acid sequence of the variable domain. In another aspect, an amino acid is placed at a position proximal to a cys residue that participates in an intrachain variable domain disulfide bond that corresponds to an amino acid found at that position in a variable domain consensus sequence subgroup that has the most sequence identity with the HVR1 and/or HVR2 amino acid sequence of the variable domain.

L46 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
2001:12626 Document No. 134:91089 Improved fermentative **yield**, chromatographic recovery, and stability of Apo-2 ligand using divalent metal ions. Ashkenazi, Avi J.; Hymowitz, Sarah; Kelley, Robert F.; Koumenis, Iphegeni; Leung, Susan; O'connell, Mark; Pai, Roger; Shahrokh, Zahra; **Simmons, Laura** (Genentech, Inc., USA). PCT Int. Appl. WO 2001000832 A1 20010104, 60 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US17579 20000626. PRIORITY: US 1999-PV141342 19990628.
AB Methods of making Apo-2 ligand (Apo-2L, also known as TRAIL or tumor-necrosis factor-related apoptosis-inducing ligand) and formulations of Apo-2L using divalent metal ions are provided. Such divalent metal ions include zinc and cobalt which improve Apo-2L trimer formation and stability. The crystal structure of Apo-2L is also provided, along with Apo-2 ligand variant polypeptides with improved stability, identified using oligonucleotide-directed mutagenesis. Replicable plasmid vectors are described for cloning and expression of Apo-2L and its variants in host Escherichia coli.

L46 ANSWER 4 OF 5 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN
1992:302457 The Genuine Article (R) Number: HT165. TOPOLOGICAL KINKS IN PHI(2N) FIELD-THEORIES - A VARIATIONAL APPROACH. COOPER F (Reprint); **SIMMONS L M**; SODANO P. UNIV CALIF LOS ALAMOS SCI LAB, DIV THEORET, LOS ALAMOS, NM 87545 (Reprint); UNIV CALIF LOS ALAMOS SCI LAB, CTR NONLINEAR STUDIES, LOS ALAMOS, NM 87545; UNIV PERUGIA, SEZ IST NAZL FIS NUCL, I-06100 PERUGIA, ITALY; UNIV PERUGIA, DIPARTIMENTO FIS, I-06100 PERUGIA, ITALY; SANTA FE INST, SANTA FE, NM 87501. PHYSICA D (APR 1992) Vol. 56, No. 1, pp. 68-83. ISSN: 0167-2789. Publisher: ELSEVIER SCIENCE BV , PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS. Language: English.

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The delta-expansion and the linear delta-expansion are analytical perturbation techniques that enable one to find approximate analytic solutions to nonlinear problems. These expansions, augmented by new variational strategies, often **yield** excellent results already in first order. We study in this paper the static kinks in scalar field theories with V[phi] = - 1/2m2-phi-2 + g-phi-2n using these techniques. We find excellent agreement between the lowest order variational approximation in both methods and the exact answer. We also estimate the energy of the first excited quantum state by considering small oscillations about the kink motion and using our variational wave functions and a shape parameter ansatz for the first excited state wave function.

L46 ANSWER 5 OF 5 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 2

1980:141067 Document No.: PREV198069016063; BA69:16063. WIDTH WEIGHT ENDOSPERM AND BRAN OF THE WHEAT GRAIN AS DETERMINANTS OF FLOUR MILLING **YIELD** IN NORMAL AND SHRIVELLED WHEATS. **SIMMONS L** [Reprint author]; MEREDITH P. DEP SCI IND RES, WHEAT RES INST, CHRISTCHURCH, NZ. New Zealand Journal of Science, (1979) Vol. 22, No. 1, pp. 1-10.
CODEN: NZJSAB. ISSN: 0028-8365. Language: ENGLISH.

AB In normal wheat grains of 5 cultivars and frost-shrivelled grains of 2 cultivars, length, width, thickness, wt, volume, proportion of endosperm and **yield** of flour in an experimental mill were measured. Kernel width may be used as a simple field technique to estimate kernel weight In normal grains, kernel wt gives a useful prediction of flour **yield**, but this is not applicable for frost-shrivelled grains or for those cultivars that **yield** "fluffy" flours. It is suggested that frosting prevents or slows the processes of pericarp degradation so that frosted grains have a greater relative amount of bran. Shrivelled grains may be distinguished from sound grains, regardless of size and texture, by low content of endosperm, low specific gravity and high ratio of length to width.

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